```
1/1                                                 31/11
AGG TTG CTC GTG CGC CTG GCG TCT TGG CTG CCG CCC CAC TAG CGA CTG CGC CGT CGA CGA
arg leu leu val arg leu ala ser trp leu pro pro his AMB arg leu arg arg arg arg
61/21                                               91/31
TCC GGC AGG GCA CGT CAG CGC GAA ACG TCA CCG CGT TCG GGG CAC CAG AGC ACG GAC CCG
ser gly arg ala arg gln arg glu thr ser pro arg ser gly his gln ser thr asp pro
121/41                                              151/51
GCA TGC CGC GGG TCT CGG ACG GTC GGG CGC CAT CGA CGC CGG ACG AGG TCG CGG TGT CGA
ala cys arg gly ser arg thr val gly arg his arg arg arg thr arg ser arg cys arg
181/61
GCA CGC TGG GCC GAA ACC TCG GCG ACG ATC
ala arg trp ala glu thr ser ala thr ile
```

SEQ ID No.8B'

FIGURE 8B'

Seq8C

```
1/1                                                 31/11
CCA GGT TGC TCG TGC GCC TGG CGT CTT GGC TGC CGC CCC ACT AGC GAC TGC GCC GTC GAC
pro gly cys ser cys ala trp arg leu gly cys arg pro thr ser asp cys ala val asp
61/21                                               91/31
GAT CCG GCA GGG CAC GTC AGC GCG AAA CGT CAC CGC GTT CGG GGC ACC AGA GCA CGG ACC
asp pro ala gly his val ser ala lys arg his arg val arg gly thr arg ala arg thr
121/41                                              151/51
CGG CAT GCC GCG GGT CTC GGA CGG TCG GGC GCC ATC GAC GCC GGA CGA GGT CGC GGT GTC
arg his ala ala gly leu gly arg ser gly ala ile asp ala gly arg gly arg gly val
181/61
GAG CAC GCT GGG CCG AAA CCT CGG CGA CGA TC
glu his ala gly pro lys pro arg arg arg
```

SEQ ID No.8C'

FIGURE 8C'

```
1021/341                                                    1051/351
tat ctg aac ttc gac atg ttg gcg tcg ccg aac ccg ggt tac ttc acc tac gac ggt gac
tyr leu asn phe asp met leu ala ser pro asn pro gly tyr phe thr tyr asp gly asp
1081/361                                                    1111/371
cag tcg ctg ccg cta gac gcc cgc ggt cag ccg gtg gtg ccc gaa ggc tcg gcc ggt atc
gln ser leu pro leu asp ala arg gly gln pro val val pro glu gly ser ala gly ile
1141/381                                                    1171/391
gag cgc acg ttc gtc gcc tat ctg aag atg gcc ggc aag acc gcg cag gac acc tcg ttc
glu arg thr phe val ala tyr leu lys met ala gly lys thr ala gln asp thr ser phe
1201/401                                                    1231/411
gac ggt cgg tcc gac tac gac ggc ttc acg ctg gcg ggt atc cct tcg ggt ggc ctg ttc
asp gly arg ser asp tyr asp gly phe thr leu ala gly ile pro ser gly gly leu phe
1261/421                                                    1291/431
tcc ggc gct gag gtc aag aag tcc gcc gag caa gcc gag ctc tgg ggc ggc acc gcc gac
ser gly ala glu val lys lys ser ala glu gln ala glu leu trp gly gly thr ala asp
1321/441                                                    1351/451
gag cct ttc gat ccc aac tat cac cag aag aca gac acc ctg gac cat atc gac cgc acc
glu pro phe asp pro asn tyr his gln lys thr asp thr leu asp his ile asp arg thr
1381/461                                                    1411/471
gcg ctc ggt atc aac ggc gct ggc gtc gcg tac gcg gtg ggt ttg tat gcg cag gac ctc
ala leu gly ile asn gly ala gly val ala tyr ala val gly leu tyr ala gln asp leu
1441/481                                                    1471/491
ggc ggc ccc aac ggg gtt ccg gtc atg gcg gac cgc acc cgc cac ctg att gcc aaa ccg
gly gly pro asn gly val pro val met ala asp arg thr arg his leu ile ala lys pro
1501/501
tga
OPA
```

SEQ ID No.19D (continued)

FIGURE 19D (continued)

```
1/1                                                 31/11
CGA TCG CGC TTC TGC CGC TGG TAG TGG CGA TGG TGT TAG CAG GAT TGC GGG TCG AGG CTG
arg ser arg phe cys arg trp AMB trp arg trp cys AMB gln asp cys gly ser arg leu
61/21                                               91/31
CGA TGG CCA GCA CCA GCG GCC TGC GGC TGG TCG CCG CGC GCG CCG AAA TGA TAC CCG CGA
arg trp pro ala pro ala ala cys gly trp ser pro arg ala pro lys OPA tyr pro arg
121/41                                              151/51
TCA CGA AAT ACA TGT CGG CGC TGG ACG TCG CCG TGC TGG CCA GCT CGA CCG GAC ACG ATG
ser arg asn thr cys arg arg trp thr ser pro cys trp pro ala arg pro asp thr met
181/61                                              211/71
TGG AGG GGG CGC AGA AAA ACT TCA CCG CCC GCA AGT ACG AGC TGC AGA CGC GAC TGG CCG
trp arg gly arg arg lys thr ser pro pro ala ser thr ser cys arg arg asp trp pro
241/81                                              271/91
ACA CCG ACG TCA TCG CAG ACG TGC GGT CGG GAG TGA ACA CGC TGC TCA ACG GCG GTC AGG
thr pro thr ser ser gln thr cys gly arg glu OPA thr arg cys ser thr ala val arg
301/101                                             331/111
CGC TGC TGG ATA AGA TGC TGG CCG ACA GCA TCG GCT TGC GGG ATC
arg cys trp ile arg cys trp pro thr ala ser ala cys gly ile
```

SEQ ID No.21B'

FIGURE 21B'

```
1/1                                                 31/11
CAC GAT CGC GCT TCT GCC GCT GGT AGT GGC GAT GGT GTT AGC AGG ATT GCG GGT CGA GGC
his asp arg ala ser ala ala gly ser gly asp gly val ser arg ile ala gly arg gly
61/21                                               91/31
TGC GAT GGC CAG CAC CAG CGG CCT GCG GCT GGT CGC CGC GCG CGC CGA AAT GAT ACC CGC
cys asp gly gln his gln arg pro ala ala gly arg arg ala arg arg asn asp thr arg
121/41                                              151/51
GAT CAC GAA ATA CAT GTC GGC GCT GGA CGT CGC CGT GCT GGC CAG CTC GAC CGG ACA CGA
asp his glu ile his val gly ala gly arg arg arg ala gly gln leu asp arg thr arg
181/61                                              211/71
TGT GGA GGG GGC GCA GAA AAA CTT CAC CGC CCG CAA GTA CGA GCT GCA GAC GCG ACT GGC
cys gly gly gly ala glu lys leu his arg pro gln val arg ala ala asp ala thr gly
241/81                                              271/91
CGA CAC CGA CGT CAT CGC AGA CGT GCG GTC GGG AGT GAA CAC GCT GCT CAA CGG CGG TCA
arg his arg arg his arg arg arg ala val gly ser glu his ala ala gln arg arg ser
301/101                                             331/111
GGC GCT GCT GGA TAA GAT GCT GGC CGA CAG CAT CGG CTT GCG GGA TC
gly ala ala gly OCH asp ala gly arg gln his arg leu ala gly
```

SEQ ID No.21C'

FIGURE 21C'

```
1021/341                                                    1051/351
cgc acg ctg gtc ggg ccg atg cgg gta ctg cgt gat ggg gcg ctc aag gtt gct cat acc
arg thr leu val gly pro met arg val leu arg asp gly ala leu lys val ala his thr
1081/361                                                    1111/371
gat ctc gac ggc gag atc gcg gcg gtc cgc gcc ggc gac gag ccg atc ccc gag cca ctg
asp leu asp gly glu ile ala ala val arg ala gly asp glu pro ile pro glu pro leu
1141/381                                                    1171/391
gcg gtg tac acc acc gag gaa atc ggt cag gtc gcg cat gcg gtc gac gag ctg cac acc
ala val tyr thr thr glu glu ile gly gln val ala his ala val asp glu leu his thr
1201/401                                                    1231/411
cgg gcc ctg ttg ctg gcc ggc gag gaa acg cgg ttg cga ctg ctg gtc aac gag atg ttt
arg ala leu leu leu ala gly glu glu thr arg leu arg leu leu val asn glu met phe
1261/421                                                    1291/431
gag acc atg tcg cgg cgt agc cgt tcc ctg gtc gac cag cag ctg tcg gtc atc gac caa
glu thr met ser arg arg ser arg ser leu val asp gln gln leu ser val ile asp gln
1321/441                                                    1351/451
ctg gag cgc aac gag gag gat ccc gcc cga ctc gac agc ctt ttc cgg ctc gat cac ctg
leu glu arg asn glu glu asp pro ala arg leu asp ser leu phe arg leu asp his leu
1381/461                                                    1411/471
gcc gcc cgg ctg cgc cgc aac agc gcc aac ctg ctg gtg ctg gcc ggt gcg cag att acc
ala ala arg leu arg arg asn ser ala asn leu leu val leu ala gly ala gln ile thr
1441/481                                                    1471/491
cgt gac cac cgc gag ccg gtg ccg ctg tca acc gtg atc agc gcc gcc gtg tca gag gtc
arg asp his arg glu pro val pro leu ser thr val ile ser ala ala val ser glu val
1501/501                                                    1531/511
gag gac tat cgc cgc gtc gac atc gcg agg gta ccc gac tgt gcg gta gtc ggc gca gcg
glu asp tyr arg arg val asp ile ala arg val pro asp cys ala val val gly ala ala
1561/521                                                    1591/531
gct ggt ggc gtc att cat ctg ctt gcc gag ctg atc gac aac gcg ttg cgc tac tcg tca
ala gly gly val ile his leu leu ala glu leu ile asp asn ala leu arg tyr ser ser
1621/541                                                    1651/551
ccg acc aca ccc gtt cgg gtt gcc gcc gca atc ggc agc gaa ggc agt gtt ctg ctg cga
pro thr thr pro val arg val ala ala ala ile gly ser glu gly ser val leu leu arg
1681/561                                                    1711/571
atc tcg gat tcc ggc ctg ggc atg acc gat gcc gat cgg cgg atg gcc aat atg cgg ctg
ile ser asp ser gly leu gly met thr asp ala asp arg arg met ala asn met arg leu
1741/581                                                    1771/591
cgg gcc ggc ggt gag gtc acc ccg gat agt gcc cgg cac atg ggt ctg ttc gta gtc ggc
arg ala gly gly glu val thr pro asp ser ala arg his met gly leu phe val val gly
1801/601                                                    1831/611
cgg ctg gcc ggt cgg cac ggc atc cga gtc ggg ctg cgc ggt ccg gtg acc ggt gaa cag
arg leu ala gly arg his gly ile arg val gly leu arg gly pro val thr gly glu gln
1861/621                                                    1891/631
ggc acc ggc acc acc gcc gag gtc tac ctg ccg cta gcc gtg ctc gag ggg acg gcc cca
gly thr gly thr thr ala glu val tyr leu pro leu ala val leu glu gly thr ala pro
1921/641                                                    1951/651
gcg cag ccg cca aag ccg cgg gta ttt gcg atc aag ccg ccg tgt cct gaa ccc gcg gcg
ala gln pro pro lys pro arg val phe ala ile lys pro pro cys pro glu pro ala ala
1981/661                                                    2011/671
gcc gat ccg acg gac gtt ccc gcc gcc atc ggg ccg cta cca ccg gtc acg ttg ctc ccg
ala asp pro thr asp val pro ala ala ile gly pro leu pro pro val thr leu leu pro
```

SEQ ID No.21D (continued 1)

FIGURE 21D (continued 1)

2041/681 2071/691
cgc cgt acc ccg ggg tcc agt ggc atc gcc gac gtc ccg gcc cag ccg atg cag cag cgg
arg arg thr pro gly ser ser gly ile ala asp val pro ala gln pro met gln gln arg
2101/701 2131/711
cgg cgc gag ctg aaa aca ccc tgg tgg gag gat agg ttt caa cag gag ccc aaa caa ccg
arg arg glu leu lys thr pro trp trp glu asp arg phe gln gln glu pro lys gln pro
2161/721 2191/731
ccc gca cca gaa ccg cga ccg gcg ccg ccg ccc gcc aaa ccc gcg cca ccg gcg ggc ccg
pro ala pro glu pro arg pro ala pro pro pro ala lys pro ala pro pro ala gly pro
2221/741 2251/751
gtt gat gac gac gtc atc tac cgg cgg atg ctc tcc gag atg gtg ggt gac ccg cac gag
val asp asp asp val ile tyr arg arg met leu ser glu met val gly asp pro his glu
2281/761 2311/771
ctg gcc cac agc ccc gat ctg gac tgg aag tcg gtg tgg gac cac ggc tgg tcg gcg gcc
leu ala his ser pro asp leu asp trp lys ser val trp asp his gly trp ser ala ala
2341/781 2371/791
gcc gag gcc gcg gac aag ccc gtg cag tcc cgc acg gac tac ggc ctg ccg gtg cgc gaa
ala glu ala ala asp lys pro val gln ser arg thr asp tyr gly leu pro val arg glu
2401/801 2431/811
ccc ggg gcc cgg tta gtg ccg ggg gcg gcg gtg cct gag gga ccc gat cgg gag cat ccg
pro gly ala arg leu val pro gly ala ala val pro glu gly pro asp arg glu his pro
2461/821 2491/831
ggt gca gcg cta gca tcc aac ggc gga ctt cat ccc ggc cga gcg ccg cgg cac gcg gct
gly ala ala leu ala ser asn gly gly leu his pro gly arg ala pro arg his ala ala
2521/841 2551/851
gcg gta cgc gac ccc gac gcg gtt cgt gcc tcc atc agc agc cat ttc ggc ggc gtg cgc
ala val arg asp pro asp ala val arg ala ser ile ser ser his phe gly gly val arg
2581/861 2611/871
acc ggg cgg tcg cat gcc cgc gag agc agt cag gga ccc aat cag caa tga
thr gly arg ser his ala arg glu ser ser gln gly pro asn gln gln OPA

SEQ ID No.21D (continued)

FIGURE 21D (continued)

ORF according to Cole et al. (Nature 393:537-544) and containing Rv3365c

```
1/1                                                 31/11
taa ggg tgc ggc cgg tgg cac ggc cgc ggc cac gtg acc atg ttc gcc cgc ccg acc atc
OCH gly cys gly arg trp his gly arg gly his val thr met phe ala arg pro thr ile
61/21                                               91/31
ccg gtc gcg gcg gcc gct tct gat att tcc gcc ccg gct caa ccg gcc cgc ggc aaa cct
pro val ala ala ala ser asp ile ser ala pro ala gln pro ala arg gly lys pro
121/41                                              151/51
cag caa cgc ccg ccg tcc tgg tcg ccg cgc aac tgg ccg gtc cga tgg aaa gtg ttc acg
gln gln arg pro pro ser trp ser pro arg asn trp pro val arg trp lys val phe thr
181/61                                              211/71
atc gcg ctt ctg ccg ctg gta gtg gcg atg gtg tta gca gga ttg cgg gtc gag gct gcg
ile ala leu leu pro leu val val ala met val leu ala gly leu arg val glu ala ala
241/81                                              271/91
atg gcc agc acc agc ggc ctg cgg ctg gtc gcc gcg cgc gcc gaa atg ata ccc gcg atc
met ala ser thr ser gly leu arg leu val ala ala arg ala glu met ile pro ala ile
301/101                                             331/111
acg aaa tac atg tcg gcg ctg gac gtc gcc gtg ctg gcc agc tcg acc gga cac gat gtg
thr lys tyr met ser ala leu asp val ala val leu ala ser ser thr gly his asp val
361/121                                             391/131
gag ggg gcg cag aaa aac ttc acc gcc cgc aag tac gag ctg cag acg cga ctg gcc gac
glu gly ala gln lys asn phe thr ala arg lys tyr glu leu gln thr arg leu ala asp
421/141                                             451/151
acc gac gtc atc gca gac gtg cgg tcg gga gtg aac acg ctg ctc aac ggc ggt cag gcg
thr asp val ile ala asp val arg ser gly val asn thr leu leu asn gly gly gln ala
481/161                                             511/171
ctg ctg gat aag gtg ctg gcc gac agc atc ggc ttg cgg gat cgg gtc acc gcc tac gcg
leu leu asp lys val leu ala asp ser ile gly leu arg asp arg val thr ala tyr ala
541/181                                             571/191
ccg ctg ctg ttg acg gcc cag aac gtg att gac gcg tcg gtg cgg gtt gac agc gag caa
pro leu leu leu thr ala gln asn val ile asp ala ser val arg val asp ser glu gln
601/201                                             631/211
atc cga acc cag gtg cag ggt ttg agc cga gcc gtt ggc gcc cgc ggg cag atg acg atg
ile arg thr gln val gln gly leu ser arg ala val gly ala arg gly gln met thr met
661/221                                             691/231
cag gag atc ctg gtg act cgc ggc gcc gac ctt gcc gag ccg caa ctg cgc agc gcg atg
gln glu ile leu val thr arg gly ala asp leu ala glu pro gln leu arg ser ala met
721/241                                             751/251
gtt acc ctg gcc ggc acc gaa ccc tcg acg ctg ttc ggg atg agc gcg gcg ctc ggt gca
val thr leu ala gly thr glu pro ser thr leu phe gly met ser ala ala leu gly ala
781/261                                             811/271
ggc tcg ccg gac acc aag aac ctg cag cag caa atg gtg acc agg atg gcg atc atg tcc
gly ser pro asp thr lys asn leu gln gln gln met val thr arg met ala ile met ser
841/281                                             871/291
gat ccg gcc gtt gca ctg gtc aac aac cca gag ctg ctg cac tcg ata cag atc acc cgc
asp pro ala val ala leu val asn asn pro glu leu leu his ser ile gln ile thr arg
```

SEQ ID No.21F

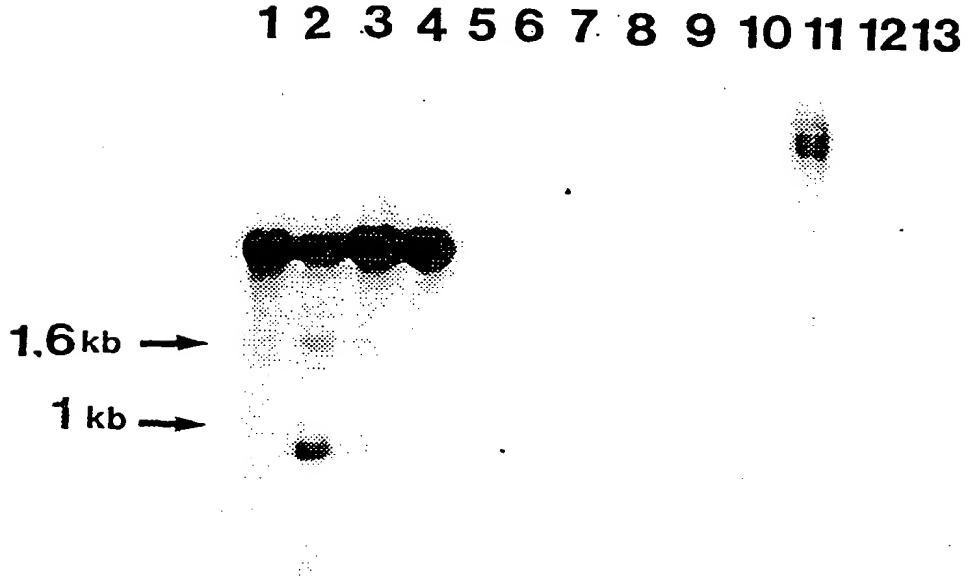
FIGURE 21F

```
901/301                                                    931/311
gac att gcc gag cag gtg atc acc gac acc acc gag gcg gtg acg aag tcg gtg caa agc
asp ile ala glu gln val ile thr asp thr thr glu ala val thr lys ser val gln ser
961/321                                                    991/331
cag gcc acc gac cgg cgg gat gcc gcg att cgc gac gcc gtg ctg gtg ttg gcc gcc atc
gln ala thr asp arg arg asp ala ala ile arg asp ala val leu val leu ala ala ile
1021/341                                                   1051/351
gcg acc gcg atc gtc gtc gtg ttg gtg gtg gcg cgc acg ctg gtc ggg ccg atg cgg gta
ala thr ala ile val val val leu val val ala arg thr leu val gly pro met arg val
1081/361                                                   1111/371
ctg cgt gat ggg gcg ctc aag gtt gct cat acc gat ctc gac ggc gag atc gcg gcg gtc
leu arg asp gly ala leu lys val ala his thr asp leu asp gly glu ile ala ala val
1141/381                                                   1171/391
cgc gcc ggc gac gag ccg atc ccc gag cca ctg gcg gtg tac acc acc gag gaa atc ggt
arg ala gly asp glu pro ile pro glu pro leu ala val tyr thr thr glu glu ile gly
1201/401                                                   1231/411
cag gtc gcg cat gcg gtc gac gag ctg cac acc cgg gcc ctg ttg ctg gcc ggc gag gaa
gln val ala his ala val asp glu leu his thr arg ala leu leu leu ala gly glu glu
1261/421                                                   1291/431
acg cgg ttg cga ctg ctg gtc aac gag atg ttt gag acc atg tcg cgg cgt agc cgt tcc
thr arg leu arg leu leu val asn glu met phe glu thr met ser arg arg ser arg ser
1321/441                                                   1351/451
ctg gtc gac cag cag ctg tcg gtc atc gac caa ctg gag cgc aac gag gag gat ccc gcc
leu val asp gln gln leu ser val ile asp gln leu glu arg asn glu glu asp pro ala
1381/461                                                   1411/471
cga ctc gac agc ctt ttc cgg ctc gat cac ctg gcc gcc cgg ctg cgc cgc aac agc gcc
arg leu asp ser leu phe arg leu asp his leu ala ala arg leu arg arg asn ser ala
1441/481                                                   1471/491
aac ctg ctg gtg ctg gcc ggt gcg cag att acc cgt gac cac cgc gag ccg gtg ccg ctg
asn leu leu val leu ala gly ala gln ile thr arg asp his arg glu pro val pro leu
1501/501                                                   1531/511
tca acc gtg atc agc gcc gcc gtg tca gag gtc gag gac tat cgc cgc gtc gac atc gcg
ser thr val ile ser ala ala val ser glu val glu asp tyr arg arg val asp ile ala
1561/521                                                   1591/531
agg gta ccc gac tgt gcg gta gtc ggc gca gcg gct ggt ggc gtc att cat ctg ctt gcc
arg val pro asp cys ala val val gly ala ala ala gly gly val ile his leu leu ala
1621/541                                                   1651/551
gag ctg atc gac aac gcg ttg cgc tac tcg tca ccg acc aca ccc gtt cgg gtt gcc gcc
glu leu ile asp asn ala leu arg tyr ser ser pro thr thr pro val arg val ala ala
1681/561                                                   1711/571
gca atc ggc agc gaa ggc agt gtt ctg ctg cga atc tcg gat tcc ggc ctg ggc atg acc
ala ile gly ser glu gly ser val leu leu arg ile ser asp ser gly leu gly met thr
1741/581                                                   1771/591
gat gcc gat cgg cgg atg gcc aat atg cgg ctg cgg gcc ggc ggt gag gtc acc ccg gat
asp ala asp arg arg met ala asn met arg leu arg ala gly gly glu val thr pro asp
1801/601                                                   1831/611
agt gcc cgg cac atg ggt ctg ttc gta gtc ggc cgg ctg gcc ggt cgg cac ggc atc cga
ser ala arg his met gly leu phe val val gly arg leu ala gly arg his gly ile arg
```

SEQ ID No.21F (continued 1)

FIGURE 21F (continued 1)

Experiment of molecular hybridization of a specific to DP428 on the genomic DNA of various mycobacterial species



1: *M. tuberculosis* 2: *M. bovis* 3: BCG *4: M. africanum* 5: cancelled 6: *M. fortuitum* 7: *M. simiae* 8: *M. avium* 9: *M. chelonae* 10: *M. flavescens* 11: *M. gordonae* 12: *M. marinum* 13: *M. kansasii*

FIGURE 52